

**FACT SHEET**  
**CORRECTIVE ACTION DESIGN**  
**Transmittal No X260852**

**FACILITY INFORMATION**

**Facility:** Glenview Landfill  
Former Glenview Sand & Gravel  
FMF Facility Number: 296976  
RO No. 330331

**Location:** 152 Stedman Street  
Chelmsford, MA

**Owner:** Sandbanks, LLC  
19 Cedar Street  
Wilmington, MA 01887

**Operator:** Charter Environmental, Inc.  
560 Harrison Ave., 5<sup>th</sup> Floor  
Boston, MA 02118

**MEPA:** MEPA advisory opinion letter  
November 15, 2013  
Project does not require MEPA review

**CURRENT APPLICATION:**

BWP SW 25, Corrective Action Design  
Permit Application  
Closure of the Glenview Landfill  
Chelmsford, Massachusetts  
Transmittal No: X260852  
May 16, 2014

Corrective Action Design Plans  
May 2014  
Prepared by CDM Smith  
Sheet C-1 Existing Conditions Plan  
Sheet C-2 Site Preparation and Cap Repair Plan  
Sheet C-3 Sub-grade Plan  
Sheet C-4 Final Grading Plan  
Sheet C-5 Cross Sections  
Sheet D-1 Details I  
Sheet D-2 Details II  
Sheet D-3 Details III

**RELATED DOCUMENTS:**

1. Notice of Administrative Deficiency  
Corrective Action Design  
Transmittal No: X260852  
June 25, 2014
2. Response to Request for Additional Information  
July 10, 2014  
Prepared by Langdon Environmental, LLC
3. Response to Request for Site Views  
July 30, 2014
4. Renderings of Site Views  
Presented at Meeting of the Town of Chelmsford  
Board of Selectmen  
August 25, 2014
5. Provisional Decision  
Corrective Action Design  
July 29, 2014
6. Public Comments on Provisional Decision  
September 2014
7. Administrative Consent Order- Charter Environmental, Inc.  
File No: ACO-NE-14-4002  
Date: March 21, 2014
8. Administrative Consent Order- Sandbanks, LLC  
File No: ACO-NE-14-4001  
Date: March 21, 2014
9. BWP SW 45, Permit for Any Facility- Alternative Review  
Conceptual Closure Plan  
Transmittal No. X257263  
Glenview Landfill  
Chelmsford, MA  
September 17, 2013  
Prepared by CDM Smith
10. MEPA Request for Advisory Opinion  
Proposed Unlined Landfill Closure Project  
Glenview Landfill Site  
Chelmsford, MA  
October 23, 2013  
Prepared by CDM Smith

11. MEPA Response Request for Advisory Opinion  
Proposed Unlined Landfill Closure Project- Chelmsford, MA  
Executive Office of Energy and Environmental Affairs  
November 15, 2013
12. MassDEP Decision/Approval  
BWP SW 45, Permit for Any Facility- Alternative Review  
Conceptual Closure Plan  
Transmittal No. X257263  
November 20, 2013
13. Estimate of Proposed Financial Assurance Mechanism Amount  
Proposed Unlined Landfill Closure Project  
Glenview Landfill Site  
Chelmsford, MA  
December 2, 2013  
Prepared by CDM Smith
14. BPW SW 11 Modification of a Landfill – Major  
Material Management Plan  
Interim Stockpiling  
Glenview Landfill  
Chelmsford, Massachusetts  
Transmittal No: X258414  
January 16, 2014  
Prepared by Langdon Environmental, LLC
15. Revised Materials Management Plan  
Interim Stockpiling Operations  
Glenview Landfill Site  
Chelmsford, MA  
March 2014  
Prepared by Langdon Environmental, LLC
16. Charter Environmental  
Certification of Contract for Closure  
April 11, 2014
17. Glenview Landfill-Chelmsford  
Grading & Shaping Project  
Stockpiling Plan: Sheet C-1  
January 2014  
Revised February 2014
18. Revised Table 2.1  
Summary of Proposed Grading and Shaping Materials  
Source Site Procedures  
Revised: March 14, 2014

Chelmsford, Massachusetts

19. MassDEP Decision/Approval  
BPW SW 11 Modification of a Landfill – Major  
Material Management Plan  
Interim Stockpiling  
Transmittal No: X258414  
April 25, 2014

**Background:**

The Site commenced operation in the 1920s primarily for the excavation of sand and gravel. Over the course of many decades, solid waste was also dumped at the Site including an extensive area of waste disposal extending on the Site from the abutting City of Lowell Landfill.

On or about June 5, 1992, the Suffolk Superior Court entered a Final Judgment in Civil Action No. 92-3451 that in part required the City of Lowell to conduct a Comprehensive Site Assessment that included an evaluation of the extent of waste on the Glenview property. On March 13, 1995, the MassDEP approved the City of Lowell's plan for relocating waste to the Lowell Landfill. In a September 5, 1995, letter to the MassDEP, the City of Lowell's consultant Defeo, Wait, and Pare ("Defeo") provided certification to the MassDEP that the waste had been removed from within the area identified in the CSA, as modified by the additional test pits excavated in June, 1995. In addition, Defeo concluded that additional waste found in test pits outside of the Excavation Area was not considered to be part of the waste deposited by the City on the Site.

Oxide box waste materials were also found at the Site. Colonial Gas Company accepted responsibility for that waste and two file numbers were assigned by the Bureau of Waste Site Cleanup for the Site, RTNs No. 3-12353 and 3-1606. Circa June 1994, the Colonial Gas Company conducted response actions to remove the oxide box waste at the Site. The oxide box waste is believed to be the source of the cyanide found in the groundwater and soil at the Site. On or about June 25, 1997, MassDEP personnel observed the excavation of several test pits at the Site and confirmed the presence of solid waste on the property outside of the area excavated by the City of Lowell.

On August 18, 1997, Mass Gravel, Inc. ("MGI") entered into an Administrative Consent Order, ACO-NE-97-4002, (the "1997 Consent Order") with MassDEP to perform the closure of the Site utilizing excavated soil from urban construction projects, including soil generated from the Central Artery Project/Third Harbor Tunnel Project (CA/T). The soil generated from urban construction projects and the CA/T project includes urban fill materials containing contaminants greater than natural background concentrations but at concentrations acceptable for use as shaping and grading

material at unlined landfills closing pursuant to 310 CMR 19.000 including, but not limited to installation of a cap meeting the design standards of 310 CMR 19.112.

The 1997 Consent Order required MGI, among other things, to comply with the landfill assessment and closure design procedures set forth in 310 CMR 19.000 and to perform landfill closure design and landfill closure in accordance with a schedule set forth therein. On or around October 24, 2002, MassDEP executed an Administrative Consent Order with Penalty, ACOP-NE-02-4003 (the “2002 Consent Order”), with Amalgamated Transportation, Inc. (“ATI”), MGI’s successor at the Site, for failure to meet certain solid waste activity deadlines in the 1997 Consent Order. Despite extending the deadlines for completing the closure pursuant to the 2002 Consent Order several times, ATI failed to complete the closure.

On March 21, 2014, the current owner of the property Sandbanks, LLC of Wilmington<sup>1</sup>, Massachusetts (“Sandbanks”) executed an Administrative Consent Order, File No ACO-NE-14-4001 (the “Sandbanks ACO”), with MassDEP for the closure and post closure monitoring and maintenance of the Glenview Landfill including, without limitation, addressing the impact of cyanide contamination on the groundwater at the Site. Charter Environmental, LLC of Boston, Massachusetts is under agreement with the landowner, Sandbanks to complete the final closure of the Glenview Landfill and other associated activities in accordance with the Solid Waste Management Regulations, 310 CMR 19.000.

As set forth more fully below, in 2013 Charter had proposes a Conceptual Closure Plan for completing the closure of the Landfill. On November 20, 2014, the MassDEP approved the Conceptual Closure Plan following issuance of a provisional decision and a public comment period pursuant to 310 CMR 19.033(4)(a). As owner of the Landfill, Sandbanks retains ultimate responsibility for the closure and post closure monitoring and maintenance of the Landfill and for addressing the cyanide contamination at the site.

On March 21, 2014, Charter and the MassDEP executed an Administrative Consent Order, File No ACO-NE-14-4002 (the “Charter ACO”) for completing the closure of the Site. The Charter ACO:

- Authorizes the interim stockpiling of grading and shaping material at the site subject to the review and approval of an Interim Stockpiling Plan by MassDEP; allows for Charter to accept and place 420,000 cubic yards of grading and shaping material for purposes of financing the closure of the site.
- Authorizes a maximum elevation for the summit of the final closed landfill of approximately 212 feet<sup>2</sup> as shown on Figure 1: Conceptual Grading Plan of the

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<sup>1</sup> Additional detail on the history of the site and Sandbanks acquisition of the property can be found in the Facts Sections of the Charter and Sandbanks ACOs.

<sup>2</sup> An increase in height of approximately 48 feet above the current maximum elevation of 164 feet.

Conceptual Closure Plan as previously approved by the MassDEP on November 20, 2013<sup>3</sup>.

- Requires submittal for review and approval by MassDEP of the Corrective Action Design with the final design plans, details, and specification for construction of the conceptual design.
- Requires that Charter establish and maintain a Financial Assurance Mechanism (FAM) pursuant to 310 CMR 19.051 in the amount of \$2,982,000.00, as discussed below.
- Requires that Charter conduct routine inspections of the Landfill including, but not limited to, a daily inspection and assessment of the status and condition of the Landfill<sup>4</sup> and construction activities including, but not limited to monitoring for the occurrence of nuisance odors, dust, and noise, and storm water run-off from the Landfill and any necessary corrective actions and to maintain at the Landfill a Daily Log that summarizes the daily inspections;
- Requires that Charter shall notify MassDEP and the Town of Chelmsford and City of Lowell Boards of Health in no case greater than within forty-eight (48) hours of the Engineer of Record, Charter, or contractor(s), becoming aware of the occurrence of any conditions or events at the Landfill that result in off-site nuisance conditions or a threat to the public health, safety, welfare or the environment; the details of any incidents that resulted in the response of emergency personnel (fire, police, MassDEP Emergency Response personnel, the Occupational Health and Safety Administration, etc.) to the Landfill; and the receipt of any complaint of off-site nuisance conditions attributed to the Landfill.
- Requires Charter to provide both the Town Manager of Chelmsford and the Lowell City Manager and the Boards of Health of the Town of Chelmsford and the City of Lowell copies of all documents and correspondence submitted to MassDEP within one (1) business day of the date of their submittal to MassDEP. This requirement does not relieve Charter of the obligation to comply with a shorter timeframe required by any applicable federal, state, or local laws, regulations, or approvals.

*Conceptual Closure Plan.* On November 20, 2013, MassDEP approved Charter's conceptual plan (the "Conceptual Closure Plan") for the placement of approximately 420,000 cubic yards (cy) of additional grading and shaping materials to complete the final closure of the

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<sup>3</sup> The Conceptual Closure Plan was included as Exhibit 1 to the Charter ACO.

<sup>4</sup>This includes but is not limited to structures, equipment, devices, storm water management controls, environmental control systems, paved surfaces, fencing, gates, and other areas.

Landfill in accordance with the Massachusetts Solid Waste Regulations, 310 CMR 19.000.<sup>5</sup> Approved grading and shaping materials included: clean soils; soils meeting MassDEP's guidance "Reuse and Disposal of Contaminated Soils at Massachusetts Landfills", COMM-97-001, for unlined landfills; street sweepings; catch basin cleanings from storm water systems that are separated from sewers; and dewatered dredge materials for unlined landfills per MassDEP Policy COMM-94-007.

The Conceptual Closure Plan also proposed that Charter be allowed to receive and stockpile approximately fifty thousand (50,000) cubic yards (cy) of shaping and grading soil pending MassDEP's approval of the revised Corrective Action Design for completing closure of the Landfill. MassDEP's approval of the Conceptual Closure Plan required that Charter submit to MassDEP for review and approval a plan for the proposed interim stockpile of grading and shaping material at the Landfill, an application category BWP SW 11: *Landfills-Major Modification*.

On October, 16, 2013, MassDEP issued a provisional decision on the Conceptual Closure Plan (the "October 2013 Provisional Decision") for review and comment by interested parties including, without limitation, the Town of Chelmsford and the public. MassDEP accepted comments on the October 2013 Provisional Decision until November 12, 2013. The MassDEP also met with representatives of the Town, Charter, and Sandbanks on November 1, 2013 to discuss the project. No public comments were received and the MassDEP issued the Final Decision dated November 20, 2013. Pursuant to 310 CMR 19.033(5) the appeal period on the Final Decision passed on December 20, 2013, without an appeal.

On March 11, 2014, MassDEP issued a provisional decision approving the ISP for review and comment by interested parties including, without limitation, the Town of Chelmsford and the public. Comments were due by April 4, 2014. The MassDEP received several comments pertaining to the traffic and height of landfill. MassDEP responded to these comments and issued the Final Decision approving the Interim Stockpiling Plan on April 25, 2014. Pursuant to 310 CMR 19.033(5) the appeal period on the final decision passed on May 26, 2014, without an appeal.

*Interim Stockpile Plan.* On April 25, 2014, MassDEP approved Charter's Interim Stockpile Plan ("ISP") for the stockpiling of approximately 50,000 cubic yards ("cy") of grading and shaping materials and up to 10,000 cy of asphalt, brick and concrete ("ABC") materials, as provided for by the Conceptual Closure Plan, as previously approved by MassDEP on November 20, 2013. The ABC material will be used the construction of temporary roadways and vehicle turning areas on the Landfill footprint during construction of the closure.

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<sup>5</sup> Application category, BWP SW45 - *Any Facility - Alternative Review*, Transmittal No. X257263

*100 Year Flood Plain Boundary.* CDM Smith has identified that the 100 year Flood Plain Boundary for Black Brook has been incorrectly identified in the 2010 Federal Flood Insurance Map (F.I.R.M.). The 2010 F.I.R.M., I.D. No. 25017C0251E, in part, relocated the floodplain boundary from its previous location shown on the 1980 F.I.R.M to a portion of the Landfill plateau and eastern side slope.

CDM Smith submitted a Letter of Map Revision (“LOMR”) application, I.D. No. R290635003734, to the Federal Emergency Management Agency (“FEMA”) requesting a correction of the 100 year Flood Plain Boundary for Black Brook in the area of the Landfill shown on the 2010 Federal Flood Insurance Map. FEMA approved this revision in a letter to the Chelmsford Board of Selectmen dated October 7, 2014.

The proposed landfill closure will occur within the area of the Landfill and outside of 100 year floodplain boundary as shown on the revised floodplain boundary as identified by FEMA (Map# 25017C025/F, Revision date July 2014).

*Financial Assurance Mechanism.* Charter has established a Financial Assurance Mechanism (FAM) pursuant to 310 CMR 19.051 for the activities it is required to perform to complete the closure of the Landfill pursuant to the Charter ACO. The Enterprise Bank and Trust Company, as Trustee, currently holds an original executed copy of the Standard Trust Agreement and the original copy of the Performance Bond (Bond No. SUR 36000001) issued by Iron Shore Indemnity, Inc. on April 7, 2014 in the amount of USD \$2,982,000.00. The Charter ACO requires that Charter maintain and periodically update the FAM in compliance with 310 CMR 19.051.

The FAM established by Charter is limited to its obligations to complete the closure of the Landfill as required by the Charter ACO. As specified in the Sandbanks ACO, Sandbanks is responsible for the closure of the Landfill and post-closure maintenance and monitoring of the Landfill including the requirements for a FAM. In addition, Sandbanks as the owner of the property maintains the ultimate responsibility for the closure of the Landfill. Consistent with the closure of other dumping grounds and inactive landfills, the amount of the FAM is based on the cost of constructing the cap and does not include the cost of placement of the grading and shaping material required by Charter to finance the cap construction. Langdon’s December 2, 2013 calculation of \$2,980,000 is within the range of estimates received by the MassDEP for similar projects.

### **Corrective Action Design**

Charter proposes the following as part of the Corrective Action Design:

1. Installation of a final landfill cap on all areas where new grading and shaping materials are placed. The cap as required by 310 CMR 19.112 *Landfill Cover Systems*, will consist of a 6-inch bedding layer, 40-mil thick textured high density



polyethelene liner, 12-inch thick coarse sand drainage layer and 8-inch thick topsoil layer. The bedding layer may be coarse sand, select grading and shaping material or screened street sweepings.

2. A portion of the previously constructed landfill cap is proposed to be augmented to meet the requirements of MassDEP solid waste regulations. Charter will perform a detailed investigation to determine which portion of the existing landfill cap can be reused.
3. The proposed landfill cap will be extended to the limits of the previously approved abandoned landfill cap constructed by the prior operator of the site. The edge of the landfill cap correlates to the extent of grading and shaping materials historically placed at the Site. The corrective action design does not increase the lateral extent or area of the final capped landfill.
4. Consistent with MassDEP's March 13, 1998 approval of the December 1997 Corrective Action Design, Transmittal No P22991, submitted by MGI for closure of the site, neither a landfill gas venting or collection system is required at the Site. This decision is supported by the previous assessment conducted of the site pursuant to 310 CMR 19.150 that did not detect landfill gas.
5. Access to the Site for trucks delivering grading and shaping material will be Route 3 to Drum Hill Road to Westford Street to the existing Site driveway. Exiting traffic will use the same route in the reverse direction to leave the Site.

MassDEP performed an initial review of the CAD permit application and in a letter dated June 25, 2014, requested additional information from Charter to complete its review. On behalf of Charter in letters dated July 10, 22 and 30, 2014 and August 26, 2014, Langdon provided satisfactory responses to the request for additional information. On July 31, 2014, MassDEP issued a provisional decision pursuant to 310 CMR 19.033(4)(a) approving the CAD (the "CAD Provisional Decision").

MassDEP accepted comments on the provisional decision from interested parties including, but not limited to, the public, the applicant, Town of Chelmsford and the City of Lowell. The comment period was originally set to close on August 25, 2014, at 5:00 pm, but was twice extended by the MassDEP, first to September 4, 2014 and then to September 12, 2014.

MassDEP received several sets of written comments during the public comment period including a letter from the Town of Chelmsford Board of Selectmen (see Response to Comments) dated September 10, 2014. A copy of MassDEP's responses to the comments is included as an attachment to this decision. MassDEP has revised the CAD Provisional Decision as follows in response to the relevant comments received.

1. With regard to traffic concerns and the use of Stedman Street, inserted the following new Condition 3:

**Truck Access to Site:**

As described in the CAD, access to the Site for trucks delivering grading and shaping material shall be Route 3 to Drum Hill Road to Westford Street to the existing Site driveway. Exiting traffic shall use the same route in the reverse direction to leave the Site. Trucks shall not enter or exit the Site from Stedman Street. Charter shall maintain at the Site documentation that all truck drivers have been instructed in the requirements of this paragraph. No alteration to the truck access route as described in the CAD and required by this paragraph shall occur without the consent of the Town of Chelmsford Board of Selectmen.

Charter shall also, as recommended by its' traffic consultant Green International, maintain existing site related signs that highlight the access drive for the truck drivers entering and exiting the Site; and shall on or before December 12, 2014, install a sign along the westbound approach of Westford Street, preceding the driveway to the Site, warning drivers of "TRUCKS ENTERING".

2. Modified Condition 20 *Post-Closure Use* to clarify that any change in the post-closure use of the Landfill requires the review and approval of the MassDEP and is subject to the procedures of 310 CMR 19.033 and will include issuance of a provisional decision as provided by 310 CMR 19.033(4)(a) for review and comment by interested parties including the public, and the Town of Chelmsford. The CAD does not propose or provide for an active post-closure use of the Landfill. Lacking an active post-closure use of the Landfill approved by the MassDEP, the use of the Landfill is limited to the maintenance of the landfill cap and considered "passive".